

Amendments to the Claims:

1 – 31. canceled

32. (previously presented) A breathing mask for monitoring a patient during gas delivery comprising:

a body having an internal surface, an external surface, and a perimeter surface shaped to form a seal around the patient's nose and mouth; and

at least one EEG sensor extended from the mask and positioned to detect brain activity.

33-56. canceled

57. (previously presented) The breathing mask of claim 32, wherein the perimeter surface is adapted to detect muscle activity.

58. (previously presented) The breathing mask of claim 32, wherein the perimeter surface is adapted to detect ECG.

59. (previously presented) The breathing mask of claim 32, and further comprising a flow sensor connected to the internal surface.

60. (previously presented) The breathing mask of claim 32, and further comprising an oxygen saturation sensor extended from the mask.

61. (previously presented) The breathing mask of claim 32, wherein the perimeter surface is adapted to detect eye movements.

62. (currently amended) A nasal ventilation mask comprising:

a body having an internal surface, an external surface, and a perimeter surface adapted to form seal around a patient's nose,

an airhose extending from the body; and

at least one EMG sensor connected to the body and positioned to detect muscle activity relating to a sleep state.

63. (previously presented) The mask of claim 62, and further comprising a first sensor positioned on the internal surface for detecting nasal breathing and a second sensor positioned on the external surface for detecting oral breathing.

64. (previously presented) The mask of claim 63, wherein the first and second sensors are thermal sensors.

65. (previously presented) The mask of claim 62, and further comprising at least one EEG sensor positioned on the perimeter surface.

66. (previously presented) The mask of claim 62, and further comprising at least one EOG sensor positioned on the perimeter surface.

67. (previously presented) The mask of claim 62, wherein a portion of the perimeter surface is comprised of a conductive carbonized rubber material.

68. (previously presented) The mask of claim 62, and further comprising a plurality of straps coupled to the body, the straps having at least one sensor positioned thereon.
69. (previously presented) The mask of claim 62, and further comprising a position sensor coupled to the body.
70. (previously presented) The mask of claim 62, and further comprising a microphone coupled to the body.
71. (previously presented) The mask of claim 62, wherein the perimeter surface is adapted to sense air leaks.
72. (previously presented) The mask of claim 62, and further comprising a patient recycled air detection system positioned on the internal surface.
73. (currently amended) A nasal ventilation mask assembly comprising:

a nasal mask adapted to form a seal around a patient's nose;

an EEG sensor coupled to the mask so as to be positioned on a patient's forehead
upon application of the nasal mask
74. (currently amended) The mask of claim 73 and further comprising a computer in communication with the sensors, the computer adapted to determine arousal.
75. (new) The mask of claim 73 and further comprising a computer in communication with the sensors, the computer adapted to determine sleep state.

76. (new) The mask of claim 73 and further comprising an EMG sensor coupled to the nasal mask.

77. (new) A breathing mask for monitoring a patient during gas delivery comprising:
a body having an internal surface, an external surface, and a perimeter surface shaped to form a seal around the patient's nose and mouth; and

at least one EEG sensor coupled to the body so as to be positioned on a top portion of a patient's head upon application of the body to a patient.

78. (new) A breathing mask for monitoring a patient during gas delivery comprising:
a body having an internal surface, an external surface, and a perimeter surface shaped to form a seal around the patient's nose and mouth; and

at least one EEG sensor coupled to the body so as to be positioned on a patient's forehead upon application of the body to a patient.